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cool
see coupling
of the input
a temperature compensation unit adjusting a focal-point position of the light beam on the scanned surface in accordance with a change in the temperature detected by the temperature detection unit, the temperature compensation unit adjusting the focal-point position of the light beam by directly varying a focusing effect of a corrector lens on the light beam from the light source by a controlled amount of movement of the corrector lens along its optical axis that corresponds to the temperature change,

wherein the scanning optical unit comprises a coupling lens coupling the light beam from the light source, and the corrector lens of the temperature compensation unit providing a refraction power to the coupled light beam from the coupling lens with respect to at least one of a main scanning direction and a sub-scanning direction.

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3. (Twice-Amended) An optical scanning device comprising:

a light source emitting a light beam;

a scanning optical unit deflecting the light beam from the light source and focusing the deflected light beam to form a light spot on a scanned surface, the scanned surface being scanned by the light beam from the scanning optical unit;

a temperature detection unit detecting a temperature of the scanning optical unit and its neighboring locations; and

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a temperature compensation unit adjusting a focal-point position of the light beam on the scanned surface in accordance with a change in the temperature detected by the temperature detection unit, the temperature compensation unit adjusting the focal-point position of the light beam by directly varying a focusing effect of a corrector lens on the light beam from the light source by a controlled amount of movement of the corrector lens along its optical axis that corresponds to the temperature change,

wherein the temperature compensation unit includes a memory that stores a table defining a relationship between the temperature change and a corresponding focal-point deviation of the light beam on the scanned surface, the temperature compensation unit adjusting the focal-point position of the light beam based on the focal-point deviation read from the memory in response to the temperature change, and

wherein the scanning optical unit comprises a coupling lens coupling the light beam from the light source, and the corrector lens of the temperature compensation unit providing a refraction power to the coupled light beam from the coupling lens with respect to at least one of a main scanning direction and a sub-scanning direction.

4. (Twice-Amended) An optical scanning device comprising:

a light source emitting a light beam;

a scanning optical unit deflecting the light beam from the light source and focusing the deflected light beam to form a light spot on a scanned surface, the scanned surface being scanned by the light beam from the scanning optical unit;

a temperature detection unit detecting a temperature of the scanning optical unit and its neighboring locations; and

a temperature compensation unit adjusting a focal-point position of the light beam on the scanned surface in accordance with a change in the temperature detected by the temperature detection unit, the temperature compensation unit adjusting the focal-point position of the light beam by directly varying a focusing effect of a corrector lens on the light beam from the light source by a controlled amount of movement of the corrector lens along its optical axis that corresponds to the temperature change,

wherein an integrated circuit board having a function that is different from a temperature compensation function is provided, the temperature detection unit being integrally formed on the integrated circuit board, and

wherein the scanning optical unit comprises a coupling lens coupling the light beam from the light source, and the corrector lens of the temperature compensation unit providing a refraction power to the coupled light beam from the coupling lens with respect to at least one of a main scanning direction and a sub-scanning direction.

5. (Amended) An optical scanning method comprising the steps of:

emitting a light beam from a light source;

deflecting the light beam from the light source by a scanning optical unit;

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focusing the deflected light beam by the scanning optical unit to form a light spot on a scanned surface, the scanned surface being scanned by the light beam from the scanning optical unit;

detecting a temperature of the scanning optical unit and its neighboring locations; and

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adjusting a focal-point position of the light beam on the scanned surface in accordance with a change in the temperature detected in the detecting step, the focal-point position of the light beam being adjusted by directly varying a focusing effect of a corrector lens on the light beam from the light source by a controlled amount of movement of the corrector lens along its optical axis that corresponds to the temperature change,

wherein the scanning optical unit comprises a coupling lens coupling the light beam from the light source, and the corrector lens providing a refraction power to the coupled light beam from the coupling lens with respect to at least one of a main scanning direction and a sub-scanning direction.

6. (Amended) An image forming apparatus in which an optical scanning device is provided, the optical scanning device comprising:

a light source emitting a light beam;

a scanning optical unit deflecting the light beam from the light source and focusing the deflected light beam to form a light spot on a scanned surface, the scanned surface being scanned by the light beam from the scanning optical unit;

a temperature detection unit detecting a temperature of the scanning optical unit and its neighboring locations; and

a temperature compensation unit adjusting a focal-point position of the light beam on the scanned surface in accordance with a change in the temperature detected by the temperature detection unit, the temperature compensation unit adjusting the focal-point position of the light beam by directly varying a focusing effect of a corrector lens on the light beam from the light source by a controlled amount of movement of the corrector lens along its optical axis that corresponds to the temperature change,

wherein the scanning optical unit comprises a coupling lens coupling the light beam from the light source, and the corrector lens of the temperature compensation unit providing a refraction power to the coupled light beam from the coupling lens with respect to at least one of a main scanning direction and a sub-scanning direction.